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FISH & WILDLIFE SERVICE

INDUSTRIAL FISHERY PRODUCTS

SITUATION AND OUTLOOK

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U.S. PRODUCTION, IMPORTS AND TOTAL SUPPLIES OF FISH MEAL

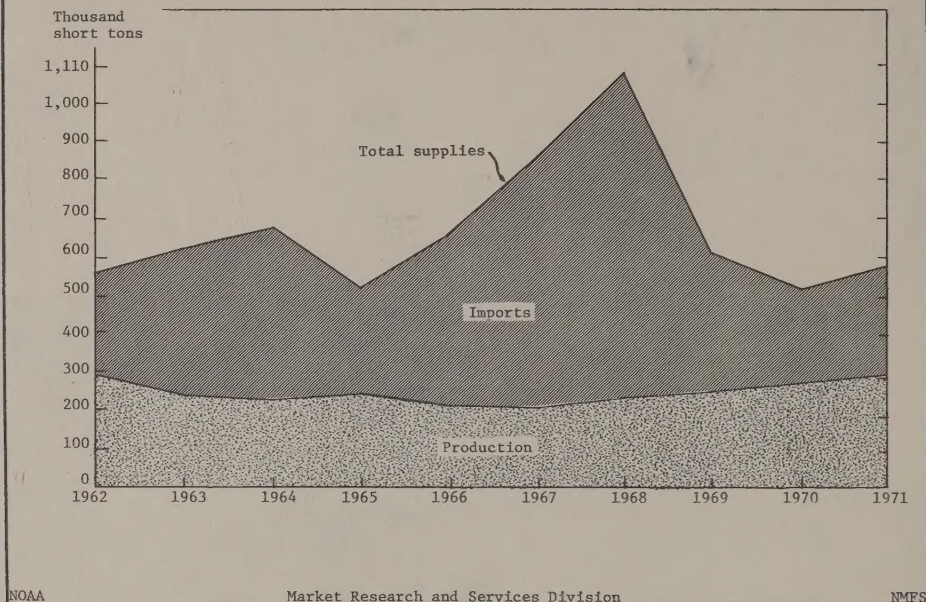


Figure 1

VALUE OF U.S. PRODUCTION, IMPORTS AND TOTAL SUPPLIES OF FISH MEAL

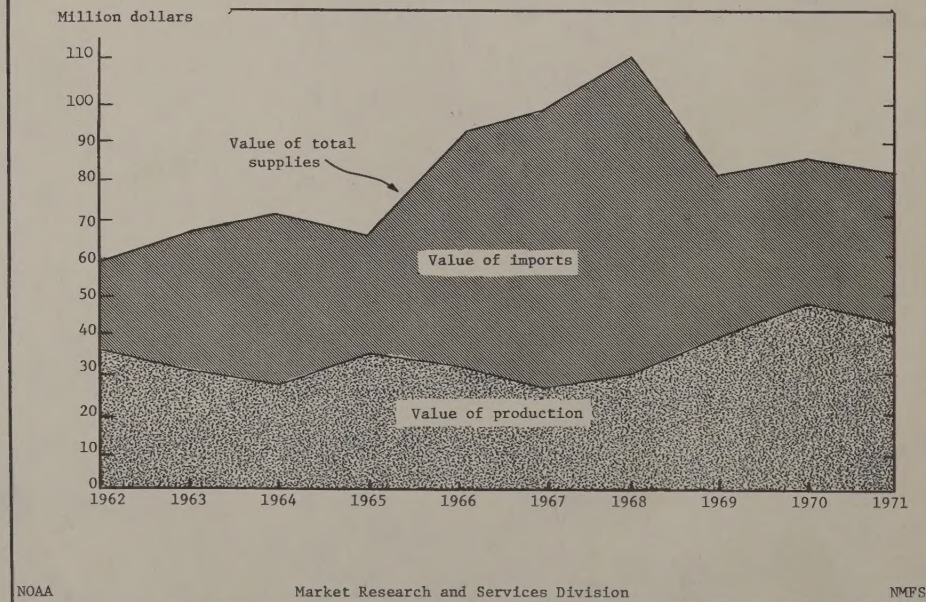


Figure 2

INDUSTRIAL FISHERY PRODUCTS

SITUATION AND OUTLOOK

Approved by the

National Marine Fisheries Service
Situation and Outlook Board

May 17, 1972

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Market Research and
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SUMMARY

FISH MEAL

Supplies of fish meal in U.S. markets increased 11 percent in 1971, and prices declined. Because of increased landings of menhaden, domestic production was the highest since 1962. Imports showed a 13-percent gain over the previous year although the level was still well below the 1966-70 average.

World production of fish meal, as well as exports from FEO 1/ countries, was somewhat less in 1971 than a year before. For the most part, the decline in exports was attributed to smaller shipments to EEC 2/ countries, whereas exports to East European countries increased.

Stocks of fish meal held by FEO countries on January 1, 1972, were considerably higher than a year before, but increased stock-sales

-
- 1/ Fishmeal Exporters Organization: member countries are Angola, Chile, Iceland, Norway, Peru, and South Africa.
- 2/ European Economic Community: member countries are Belgium, France, West Germany, Italy, Luxemburg, and the Netherlands.

ratios (stocks in relationship to exports plus domestic consumption) of most member countries indicated a faster turnover during the year.

Prices of fish meal declined markedly during the first half of 1971, but the trend reversed towards the end of the year. Prices continued to rise in the early part of 1972, reflecting increased demand for fish meal.

Fish meal production in the United States in 1972 is expected to be about the same as last year, while imports are likely to increase. The present world fish meal markets have tightened. Heavy Peruvian inventories have dwindled and Peru has withdrawn from the market while the world demand continues high.

Increases in broiler numbers and a smaller spread between the prices of fish meal and soybean meal point to an increase in the use of fish meal in the United States in 1972 compared with last year. Indications are that about 230,000 tons of fish meal will be used in the United States during the second quarter of 1972--about 35 percent more than during the same period in 1971.

FISH SOLUBLES

Production of fish solubles in the United States increased significantly in 1971--a gain associated with a marked reduction in prices. These prices were the lowest since 1961, yet the differences between prices of menhaden meal and menhaden solubles were less favorable for use of solubles in 1971 than the year before. The meal-solubles price margins increased, however, during the first quarter of 1972; and could

prompt feed formulators to include more solubles in their rations.

FISH OIL

Supplies of fish oil in 1971 were apparently abundant. Domestic production was 25 percent higher than the most recent 5-year average. Domestic use continued on a declining trend in 1971, but exports were double the 1966-70 average and the highest since 1963.

The average price of menhaden oil in 1971 dropped to 8.8 cents per pound, below the record-high 1970 average. The generally declining trend in prices continued during the first 4 months of 1972 and reflected the increase of world supplies of fish oil and competing oils.

A large catch of menhaden is expected in 1972, but fish oil production in the United States will likely be below last year, mainly because of a lower oil yield. United States fish oil exports in 1972 will face stiffer competition from Peruvian fish oil and other competing oils, which are going to be more abundant this year than a year ago.

WHALE OIL

U.S. production and imports of whale oil in 1971 declined considerably from the previous year. U.S. whale oil production and imports of oil from species of whales on the "U.S. List of Endangered Foreign Fish and Wildlife" have been terminated, and the industry has to look for substitutes for many applications where whale oil has been traditionally used.

FISH MEAL

REVIEW

Supply

Supplies Up

Total supplies of fish meal in the United States in 1971 were 565,700 tons $\frac{3}{--}$ 11 percent higher than in 1970, but 24' percent below 1966-70 average (741,200 tons). The increase in supplies over 1970 resulted from larger U.S. production and an increase in imports (table 1 and fig. 1).

Production Up 10 Percent

About 282,500 tons of fish meal were produced in the United States in 1971--a 10-percent gain over the 257,000 tons produced in 1970. The 1971 total also was the highest since 1962. The value of the 1971 fish meal production was \$43.9 million, f.o.b. plant (table 2 and fig. 2). The decline of about \$1.8 million from the 1970 value reflected the lower prices during 1971.

Menhaden meal production in 1971 was 221,000 tons, valued f.o.b. plant at about \$35 million. The volume produced in 1971 represented a 17-percent increase over a year earlier, but the value increased only slightly. Gulf Coast plants

produced about 165,200 tons of menhaden meal in 1971, a new record for the area. Menhaden meal production in the Atlantic Coast area was 55,800 tons in 1971--down about 11 percent from the year before (but somewhat above the 1966-70 average). The Gulf Coast thus accounted for a larger share of total production in 1971--75 percent vs. 67 percent a year earlier (table 3).

Menhaden Landings Up 20 Percent

Domestic landings of menhaden in 1971 were 2.15 billion pounds--compared with 1.78 billion pounds in the previous year (table 4). Landings of 1.62 billion pounds in the Gulf Coast area established a new record for the third consecutive year. This amount was one-third higher than a year earlier. Menhaden landings on the Atlantic Coast in 1971 were 525 million pounds--about 8 percent below 1970, but 11 percent above the 1966-70 average (fig. 3).

About 37,000 tons or 13 percent of the total U.S. fish meal production in 1971 was made from tuna scrap, mackerel, and anchovies. Output was about 14 percent below 1970, mainly because of lower landings of anchovy in California. The anchovy catch in January-May 1971--the second half of the 1970-71 season--was about one-fourth lower than during the comparable 1970 period. Landings in the current California anchovy season which began August 1, 1971, for the Northern Permit Area and September 15 for the Southern Permit Area were 20,900 tons at the end of the year--down nearly two-thirds from the same period in 1970. Because of the low landings, the February closure of the fishery was waived this year. Landings for the season were 53,200

3/ In general, domestic figures are expressed in short tons and foreign figures in metric tons. Short tons are used in this report unless otherwise specified. To convert metric tons to short tons, multiply by 1.1023.

Table 1.--Supplies, production, and imports of fish meal in the United States, by month, 1970-72 1/

Month	Supplies			Production			Imports		
	1970 <u>2/</u>	1971 <u>2/</u>	1972 <u>2/</u>	1970 <u>2/</u>	1971 <u>2/</u>	1972 <u>2/</u>	1970	1971 <u>2/</u>	1972 <u>2/</u>
	:	:	:	:	:	:	:	:	:
Thousand short tons									
January	24.0	37.9	24.6	3.9	4.6	6.3	20.1	33.3	18.3
February	26.2	19.0	52.6	4.8	3.2	4.4	21.4	15.8	48.1
March	25.4	17.2	51.0	5.9	3.9	5.4	19.5	13.3	45.6
April	62.9	44.1	:	8.0	12.3	:	54.9	31.8	:
May	61.2	40.0	:	26.5	29.4	:	34.7	10.5	:
June	80.1	87.2	:	46.5	57.0	:	33.5	30.2	:
July	61.0	58.3	:	50.7	52.5	:	10.2	5.8	:
August	49.7	65.3	:	39.4	50.7	:	10.3	14.7	:
September	39.6	94.0	:	28.7	31.2	:	10.9	62.9	:
October	30.1	56.2	:	22.4	19.1	:	7.8	37.1	:
November	18.3	16.4	:	12.3	11.9	:	6.0	4.5	:
December	30.0	28.2	:	7.7	4.9	:	22.3	23.3	:
Total <u>3/</u>	508.5	565.7	:	257.0	282.5	:	251.5	283.2	:

1/ Excludes meal made from shellfish.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

Table 2.--Quantity and value of U.S. fish meal production by raw material source, 1966-70 average, 1970, and 1971

Source	Production			Percent of total production		
	1966-70			1966-70		
	average	1970 <u>1/</u>	1971 <u>1/</u>	average	1970	1971
	<u>Thousand short tons</u>			<u>Percent</u>		
Menhaden <u>2/</u>	149.1	188.6	221.0	65.3	73.4	78.3
Tuna, mackerel,						
and anchovy	34.7	42.9	37.0	15.2	16.7	13.1
Unclassified	44.6	25.6	24.5	19.5	9.9	8.6
Total <u>3/</u>	228.4	257.0	282.5	100.0	100.0	100.0
Source	Value			Percent of total value		
	<u>Million dollars</u>			<u>Percent</u>		
Menhaden <u>2/</u>	23.4	34.7	35.0	68.0	75.8	79.6
Tuna, mackerel,						
and anchovy	4.4	6.5	4.9	12.9	14.3	11.2
Unclassified	6.6	4.5	4.1	19.1	9.9	9.2
Total <u>3/</u>	34.5	45.7	43.9	100.0	100.0	100.0

1/ Preliminary.

2/ Includes a small quantity of other species.

3/ Figures may not add to total because of rounding.

Table 3.--Menhaden meal production by area, 1966-70 average, 1970, and 1971 ^{1/}

Area	1966-70 average	1970 ^{2/}	1971 ^{2/}	1966-70 average	1970	1971
	Thousand short tons			Percent		
Atlantic Coast	51.8	62.4	55.8	34.7	33.1	25.2
Gulf Coast	97.3	126.2	165.2	65.3	66.9	74.8
Total	149.1	188.6	221.0	100.0	100.0	100.0

^{1/} Includes a small amount of meal from other species.

^{2/} Preliminary.

Table 4.--Menhaden landings by area, 1966-70 average, 1970, and 1971

Area	1966-70	1970	1971 ^{1/}
	Million pounds		
Atlantic Coast	474.3	572.3	525.0
Gulf Coast	935.7	1,208.8	1,624.9
Total ^{2/}	1,410.0	1,781.2	2,150.0

^{1/} Preliminary.

^{2/} Figures may not add to total because of rounding.

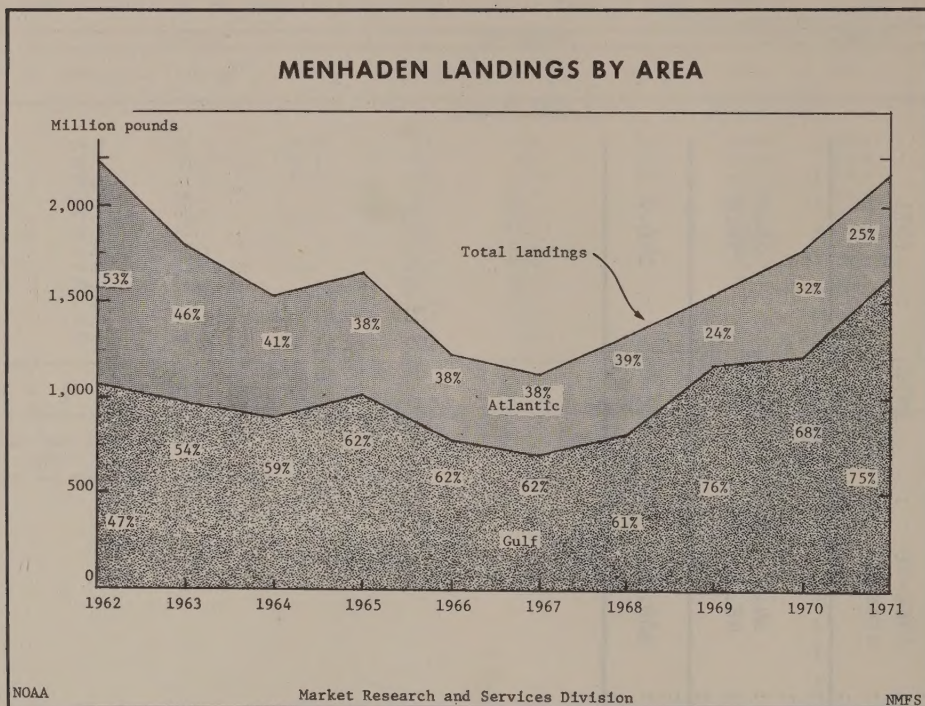


Figure 3

tons, about 48 percent of the quota of 110,000 tons. The season closed on May 15, 1972.

U.S. Imports Up 13 Percent

Fish meal imports in the United States were 283,200 tons in 1971. The total was about 13 percent above the previous year, but well below the 1966-70 average (table 5 and fig. 4). The unusually high prices which prevailed from late 1969 to early 1971 caused U.S. feed mixers to replace fish meal with less costly products, and imports dropped (fig. 5). In 1971, prices of fish meal declined while imports gained. The relatively mild response of imports to lower prices in 1971 may partially be attributed to the dock strikes, which hampered imports during the latter part of the year.

Fish meal imports from Peru were about 199,600 tons in 1971--30 percent higher than 1970 but 42 percent below the 1966-70 average. Peru supplied about 70 percent of total United States fish meal imports.

The United States imported more fish meal from Norway in 1971--24,400 tons, compared with 9,200 tons the year before, but the total was substantially below the 1966-70 average.

In contrast to Peru and Norway, fish meal imports from Canada declined. Canada shipped 57,600 tons to the United States in 1971, compared with 75,500 tons a year before. The major reason for the decline was a drop in the production of Canadian fish meal.

Table 5.--Quantity and value of U.S. imports of fish meal by country of origin, 1966-70 average, 1970, and 1971

Country of origin	Quantity		Percent of total imports			
	1966-70 average	1970	1971 1/	1966-70 average	1970	1971
	Thousand short tons			Percent		
Canada	59.7	75.5	57.6	11.6	30.0	20.3
Chile	61.2	11.6	-	11.9	4.6	-
Norway	38.5	9.2	24.4	7.5	3.7	8.6
Peru	345.3	153.2	199.6	67.4	60.9	70.5
Other	8.2	2.0	1.6	1.6	0.8	0.6
Total	512.9	251.5	283.2	100.0	100.0	100.0
Country of origin	Value		Percent of total value			
	Million dollars			Percent		
Canada	8.8	12.2	8.8	15.0	32.4	23.0
Chile	6.6	1.6	-	11.2	4.2	-
Norway	5.3	1.8	2.4	9.0	4.8	6.4
Peru	37.2	21.8	26.8	63.3	57.8	70.0
Other	0.9	0.3	0.2	1.5	0.8	0.6
Total 2/	58.8	37.7	38.3	100.0	100.0	100.0

1/ Preliminary.

2/ Figures may not add to total because of rounding.

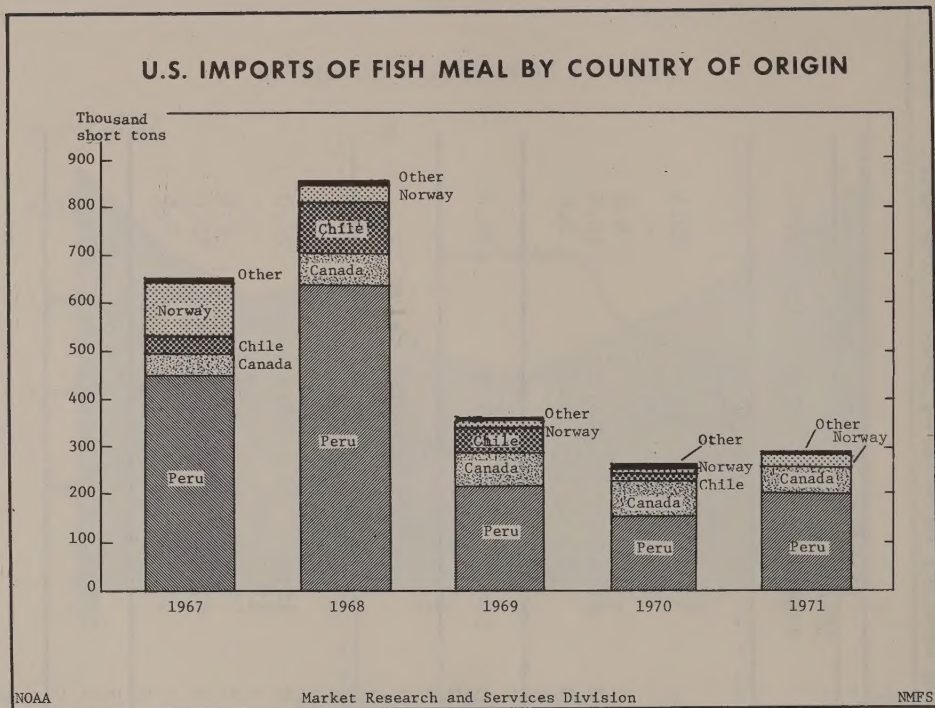


Figure 4

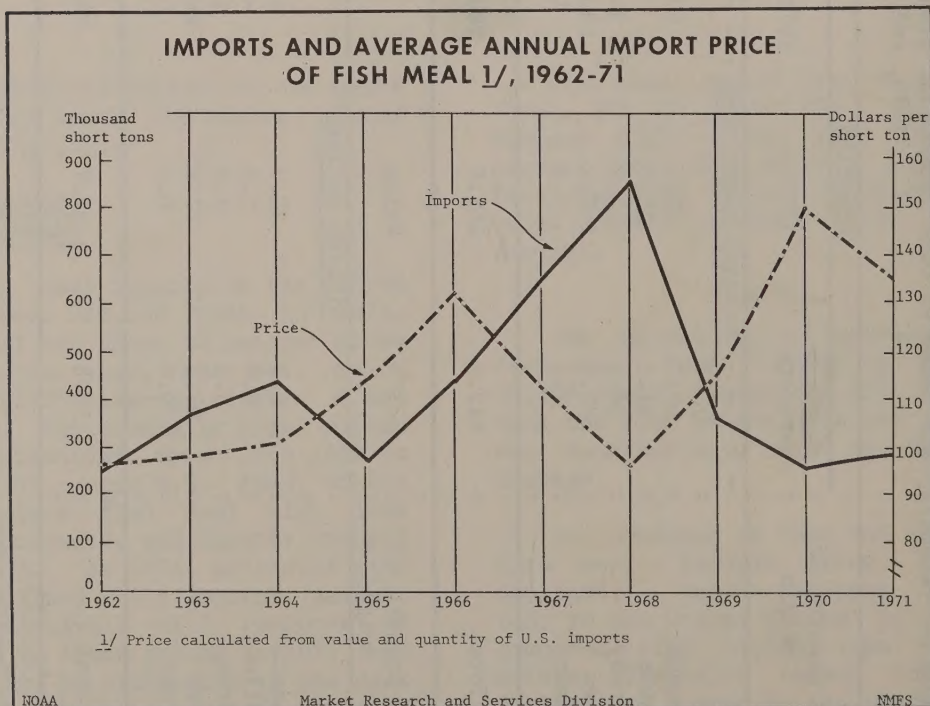


Figure 5

World Production Down 6 Percent

Five out of the eight major fish meal exporting countries produced less fish meal in 1971. Overall production in the eight dropped 6 percent from the previous year to a total of 3.3 million metric tons. The 1971 figure, nevertheless, was about 4 percent above the most recent 5-year average (table 6).

Norway's fish meal production was 384,400 metric tons in 1971--10 percent more than a year before, but still below 1966-70 average. Fish meal production in Denmark rose to 235,200 metric tons in 1971--up 20 percent from the previous year, and the highest on record. Chile's production of 243,300 metric tons was also record high.

Fish meal production in Peru in 1971 slipped to 1,934,600 metric tons--a 14-percent drop from a year earlier, which offset gains made in other countries. The decline is attributed to Peruvian Government

action that restricted fishing during the latter part of 1970/71 season and established a catch quota that limited the landings to 1.2 million metric tons of anchovies per month from September to December 1971.

FEO Exports Slightly Below 1970

Fish meal exports of member countries of the Fishmeal Exporters Organization (FEO) were an estimated 2,495,700 metric tons. The total was 19,000 tons less than in 1970 (tables 7 and 8). Exports during the early months of 1971 were particularly low, in comparison with the same months a year earlier, but picked up as the year progressed: Whereas the January-June total for 1971 was 32 percent below the comparable 1970 period, exports during July-December exceeded year-earlier totals by 45 percent (fig. 6).

Table 6.--Production of fish meal in eight major exporting countries, 1966-70 average, 1970, and 1971

Country	Percent of total production		
	1966-70 average	1970	1971 ^{1/}
	Thousand metric tons	Thousand metric tons	Thousand metric tons
Angola	60.5	59.9	2/55.0
Canada	118.6	123.8	100.8
Chile	161.1	162.7	243.3
Denmark	172.6	195.6	235.2
Iceland	96.0	68.3	63.9
Norway	395.0	350.8	384.4
Peru	1,814.6	2,253.4	1,934.6
South Africa	356.3	303.2	272.7
Total	3,174.7	3,517.7	2/3,289.9

1/ Preliminary.

2/ Estimated.

Sources: Fishmeal Exporters Organization, International Association of Fish Meal Manufacturers, and Monthly Review of Canadian Fisheries Statistics, Dominion Bureau of Statistics.

Table 7.--Total FEO 1/ exports of fish meal, by month,
1966-70 average, 1970, and 1971

Month	1966-70 average	1970	1971 <u>2/</u>
Thousand metric tons			
January	217.1	3/212.9	150.5
February	233.8	3/263.2	144.4
March	244.2	3/281.9	159.2
April	235.5	3/257.0	195.5
May	245.5	274.9	185.0
June	227.7	201.9	173.6
July	233.8	250.8	3/192.8
August	183.3	167.7	3/192.9
September	166.9	134.1	3/296.0
October	177.1	113.5	3/211.8
November	202.5	161.5	3/278.8
December	229.8	196.4	3/314.9
Total <u>4/</u>	2,597.2	2,514.3	3/2,495.7

1/ Fishmeal Exporters Organization: members are those countries listed in table 8.

2/ Preliminary.

3/ Estimated.

4/ Figures may not add to total because of rounding.

Sources: Fishmeal Exporters Organization and Oil World Weekly.

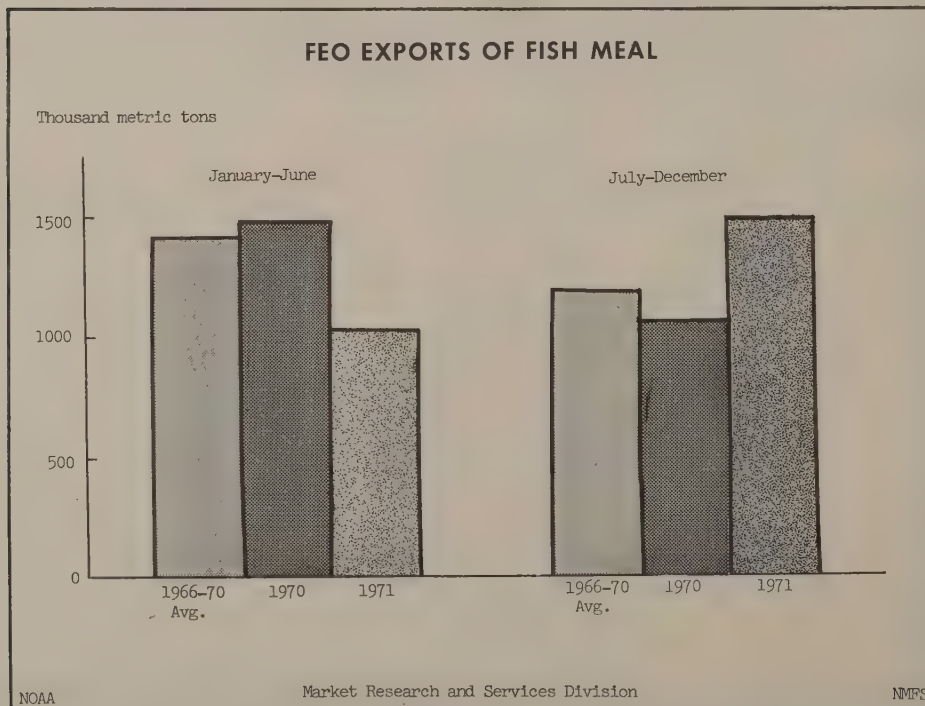


Figure 6

Table 8.--Exports of fish meal from FEO countries, 1966-70 average, 1970, and 1971

Country	1966-70	1970	1971	Percent of total exports		
	average	:	1/	1966-70	1970	1971
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^{1/} Preliminary.

^{2/} Estimated.

Sources: Fishmeal Exporters Organization and Oil World Weekly.

Peru shipped about 70 percent of FEO exports of fish meal in 1971--a slightly smaller share than a year before. Peru's exports in 1971 were 1,749,600 metric tons--which was below the previous year and on a par with the 1966-70 average. Gains were registered by Chile and Norway, but the other FEO countries exported less fish meal in 1971 than a year before.

The most noticeable development in the export markets for FEO fish meal in 1971 was an increase in FEO exports to the East European countries, which took a relatively large share (about one-fourth) of the total FEO exports (table 9). Shipments to Poland and Yugoslavia were down considerably from a year earlier, but other East European countries received substantial increases in shipments, and FEO exports to the region increased by 29 percent overall. Exports to Czechoslovakia in 1971 were three times as high as in 1970, and exports to East Germany more than doubled. The latter two countries took more than half of the FEO exports to East European countries.

During 1971, FEO exports of fish meal to EEC countries were 850,400 metric tons, about 18 percent less than a year before. West Germany continued as the major FEO market, but took a smaller share of the total. West Germany received 539,700 metric tons of FEO exports in 1971--10 percent less than a year before. In other West European markets, shipments to the Netherlands, France, and the United Kingdom were down 37, 36, and 25 percent, respectively, compared with 1970. The decreases in FEO exports to the West European countries are associated primarily with high prices of fish meal during the first half of the year and the decline in the growth of livestock numbers.

The U.S. position among FEO markets has changed considerably since 1968. In that year the United States was the leading market for fish meal and took 21 percent of FEO fish meal exports. In 1971, the United States ranked fourth as an importer and received about 7.3 percent of FEO exports of fish meal. The decline in U.S. use of fish meal was attributed mainly to relatively high prices of fish meal compared to other feed ingredients.

FEO Stocks on
January 1, 1972
Above the Year Before

Stocks of fish meal held by FEO countries on January 1, 1972, were an estimated 1,011,000 metric tons. This level approximated stocks on hand on September 1, 1971, and indicated a balance between production and exports, since the domestic use in these countries is relatively small. January 1, 1972 stocks were about 22 percent higher than a year before (table 10).

Peru held most of the FEO stocks on January 1 of this year--786,000 metric tons. Despite fishing restrictions and extensive sales efforts, Peru produced in 1971 about 185,000 metric tons more than it exported, but most of the stockpiling took place in 1970 when Peruvian production exceeded exports by 380,000 metric tons. The stock-sales ratio for Peru in the first quarter of 1971 was 7.8:1, that is, 1 ton sold per each 7.8 tons in inventory (table 11). The ratio declined during the year and was 3.4:1 in the fourth quarter. This ratio indicates a notable improvement in the rate of turnover of stocks.

Norway held 122,000 metric tons of fish meal at the beginning of 1972--slightly more than a year ago.

Table 9.--FEO 1/ exports of fish meal, by country of destination, 1969-71

Country	FEO exports			Percent of total FEO exports		
	1969	1970	1971 2/	1969	1970	1971
	Thousand metric tons			Percent		
EEC						
Belgium	57.4	44.3	27.2	2.2	1.8	1.1
France	61.6	68.4	43.5	2.4	2.7	1.7
Germany, West	558.6	598.9	539.7	21.8	23.8	21.6
Italy	105.2	109.8	100.9	4.1	4.4	4.0
Netherlands	239.4	219.4	139.1	9.4	8.7	5.6
Total 3/	(1,022.2)	(1,040.9)	(850.4)	(39.9)	(41.4)	(34.0)
United States 4/	247.3	176.4	181.2	9.7	7.0	7.3
East European Countries						
Czechoslovakia	27.6	35.6	109.8	1.1	1.4	4.4
Germany, East	90.2	101.1	213.4	3.5	4.0	8.5
Hungary	34.6	36.1	56.3	1.3	1.4	2.3
Poland	118.7	144.3	89.9	4.6	5.8	3.6
Yugoslavia	55.1	118.1	87.0	2.2	4.7	3.5
Other	2.1	33.9	46.8	0.1	1.4	1.9
Total 3/	(328.3)	(469.3)	(603.2)	(12.8)	(18.7)	(24.2)
Other						
Australia	31.8	30.2	23.1	1.2	1.2	0.9
Finland	27.0	24.2	29.2	1.1	1.0	1.2
Japan	86.4	85.3	16.9	3.4	3.4	.7
Mexico	57.9	86.6	106.1	2.3	3.4	4.3
Spain	137.5	118.3	125.0	5.4	4.5	5.0
Sweden	61.1	51.0	52.7	2.4	2.0	2.1
United Kingdom	347.7	251.9	190.0	13.5	10.0	7.6
Venezuela	25.1	23.0	28.4	1.0	0.9	1.1
Other	188.0	162.2	289.5	7.3	6.5	11.6
Total	(962.5)	(827.7)	(860.9)	(37.6)	(32.9)	(34.5)
TOTAL	2,560.3	2,514.3	2,495.7	100.0	100.0	100.0

1/ Fishmeal Exporters Organization.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

4/ Based on export figures reported by FEO countries.

Sources: Fishmeal Exporters Organization and Oil World Weekly.

Table 10.--FEO 1/ fish meal stocks held January 1, 1967-71 average, 1971, and 1972

Country	1967-71	1971	1972 2/	Percent of FEO total stocks		
	average	1971	1972 2/	1967-71 average	1971	1972
	Thousand metric tons			Percent		
Angola	8.1	5.5	3/11.0	1.2	0.7	1.1
Chile	22.1	42.6	43.0	3.4	5.1	4.3
Iceland	12.7	3.0	4.0	2.0	.4	0.4
Norway	109.3	108.9	122.0	16.8	13.2	12.1
Peru	465.7	654.4	786.0	71.8	79.0	77.7
South Africa	31.4	13.3	45.0	4.8	1.6	4.4
Total 4/	649.3	827.6	3/1,011.0	100.0	100.0	100.0

1/ Fishmeal Exporters Organization: members are those countries listed in the table.

2/ Preliminary.

3/ Estimated.

4/ Figures may not add to total because of rounding.

Table 11.--FEO fish meal stock-sales ratios 1/, by quarter, 1969-71

Country	1969				1970				1971 2/			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
	Ratio				Ratio				Ratio			
Angola	1.62	1.24	0.98	0.84	1.43	1.61	1.68	1.09	0.99	2.00	3.07	1.29
Chile	2.65	4.48	2.80	1.47	2.53	1.92	4.20	2.79	2.49	2.86	2.76	3.83
Iceland	1.84	1.06	.82	.65	1.36	1.47	1.86	1.79	1.94	1.83	2.07	2.51
Norway	1.99	1.87	2.68	1.95	2.50	4.30	6.69	4.37	4.53	9.46	6.82	4.25
Peru	2.40	1.90	1.98	2.08	1.80	2.54	2.88	4.52	7.83	6.81	4.79	3.43
South Africa	1.42	1.67	1.88	1.49	1.22	0.79	0.94	1.18	1.14	2.12	3.87	3.28
Total FEO	2.22	1.84	1.95	1.86	1.81	2.35	3.00	3.92	5.71	5.93	4.76	3.48

1/ Stocks are average of beginning and end-of-quarter-sales equal exports plus local consumption.

2/ Preliminary.

Similar to Peru, Norway's stock-sales ratio improved towards the end of the year. The fourth quarter ratio was 4.2:1--compared to the second quarter ratio of 9.5:1.

Fish meal stocks in South Africa were 45,000 metric tons on January 1, 1972--compared to 13,300 tons a year before. A decline in exports and lower domestic consumption in 1971 were the main reasons for the high stock level. The fourth quarter stock-sales ratio of South Africa was also relatively high in 1971, 3.3:1--compared to 1.2:1 a year before.

Demand

Broiler Chick Placements

Nearly the Same

As the Year Before

Nearly 3 billion broiler chicks were placed on farms in the 22 leading broiler-producing States during 1971, about the same as in the preceding year (table 12 and fig. 7).

Lower prices encouraged greater use of fish meal in broiler rations in 1971. We estimate that 3.3 to 3.8 percent of the average broiler ration in the United States was fish meal in 1971, compared with 3.1 to 3.5 percent a year earlier. This estimate is based on the assumption that 70 to 80 percent of the total available fish meal in the United States is used in broiler feed and that stocks of domestic fish meal do not change substantially from year to year. This would mean that

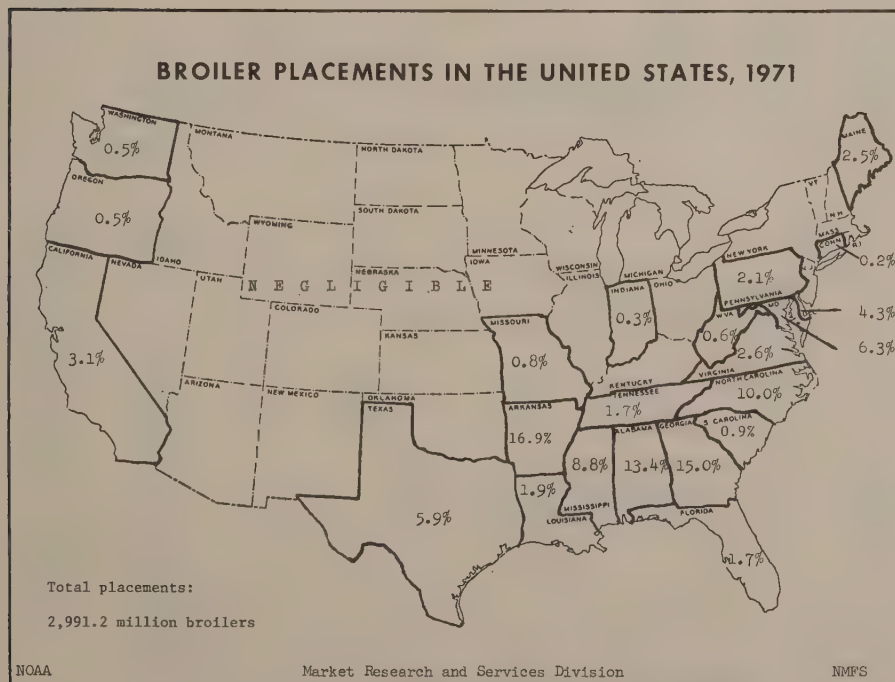


Figure 7

Table 12.--Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1970-72

Month	1970			1971 1/			1972 1/		
	Chicks	Broiler		Chicks	Broiler		Chicks	Broiler	
	placed	price		placed	price		placed	price	
	2/			2/			2/		
	Million	Cents/lb.		Million	Cents/lb.		Million	Cents/lb.	
January	256.4	14.8		250.4	13.0		260.5	13.4	
February	240.7	14.3		226.2	13.7		256.4	14.6	
March	278.8	14.8		263.8	13.7		282.2	14.5	
April	275.7	13.7		263.8	13.6		277.7		
May	282.0	13.9		271.4	14.3				
June	269.4	13.3		263.0	14.9				
July	253.6	13.6		254.4	15.9				
August	246.4	13.2		254.8	14.3				
September	211.0	13.4		227.0	14.2				
October	215.6	12.8		225.9	13.0				
November	233.4	12.9		238.0	12.6				
December	245.9	11.8		252.6	12.1				
Total									
placements									
3/ and	3,008.9	13.5		2,991.2	13.8				
average									
price									

1/ Preliminary.

2/ Weekly broiler chick placements prorated between months.

3/ Figures may not add to total because of rounding.

Sources: Commercial Broilers: Annual Production and Weekly Placements, and Delmarva Broiler Chick Report, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

400,000 to 450,000 tons of fish meal were used in an estimated (USDA) 12 million tons of broiler feed consumed in 1971.

Prices

Average Price for Soybean Meal Below 1970

The price of soybean meal (at Decatur, Ill.) averaged \$83.90 per ton in 1971--compared with \$86.80 per ton in 1970 (table 13). Demand for soybean meal held up fairly well during most of the year although it weakened slightly in the fall months. Because of tighter supplies, soybean meal prices strengthened at the end of the year and continued to increase during the first months of 1972.

The weighted average ratio of fish meal price to soybean meal price in 1971 was 1.98:1--compared to 2.24:1 in 1970. The lower ratio indicates that the competitive position of fish meal improved in 1971 (table 14).

Table 13.--Average monthly price of soybean meal 1/ at Decatur, Ill., 1969-72

Month	1969	1970	1971	1972
	Dollars per short ton			
January	79.50	97.60	86.10	89.40
February	78.40	95.60	82.40	91.50
March	80.10	79.60	82.00	98.60
April	81.30	83.10	80.50	101.80
May	84.90	78.90	84.80	
June	88.20	82.70	87.60	
July	86.20	92.50	90.00	
August	84.10	92.50	84.20	
September	82.70	88.20	80.00	
October	82.10	83.80	80.80	
November	76.90	82.50	79.20	
December	90.40	88.20	88.50	
Average 2/	82.80	86.80	83.90	

1/ 50 percent protein, bulk.

2/ Average weighted by monthly production of soybean meal and cake.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division

Prices of Fish Meal Increasing After Midyear Low

Menhaden meal (60 percent protein) sold at an average of \$157.50 per ton, f.o.b. East Coast and Gulf points in 1971--nearly 15 percent below the 1970 average (table 15). Calculated on the basis of protein content, the 1971 price was \$2.62 per unit of protein--compared to \$3.08 in 1970.

Prices declined rapidly during the first half of 1971, but gained strength towards the end of the year. Prices bottomed during July, when the average for the month was \$150.10 per ton. In December, the average was \$162.90, and continued early year increases in 1972 brought the April average up to \$168.20 per ton.

The average price of Peruvian anchovy meal (65 percent protein) in 1971 was \$166.10 per ton, f.o.b. East Coast ports--down 15 percent from the previous year (table 17). On the basis of the protein

Table 14.--Ratio of Peruvian fish meal price 1/ to soybean meal price 2/, by month, 1969-72

Month	1969	1970	1971	1972
	Price ratio			
January	1.75	2.02	2.14	1.83
February	1.80	1.92	2.17	1.79
March	1.75	2.42	2.16	1.67
April	1.80	2.38	2.20	1.68
May	1.90	2.56	2.00	
June	1.90	2.37	1.79	
July	2.01	2.01	1.72	
August	2.05	1.94	1.90	
September	2.08	2.09	1.99	
October	2.36	2.26	1.95	
November	2.63	2.28	1.99	
December	2.26	2.31	1.79	
Average	1.89	2.24	1.98	

1/ F.o.b. East Coast ports, 65 percent protein, as quoted at New York City.

2/ Wholesale at Decatur, Ill., 50 percent protein, bulk.

Table 15.--Average monthly price of menhaden meal 1/
f.o.b. East Coast and Gulf points, 1969-72

Month	1969	1970	1971 <u>2/</u>	1972 <u>2/</u>
-----Dollars per short ton-----				
January	149.25	195.90	<u>4/</u> 186.50	164.70
February	153.00	196.50	<u>4/</u> 184.20	165.00
March	153.00	189.90	180.00	164.70
April	<u>3/</u> 154.00	197.50	174.10	168.20
May	174.00	197.50	169.20	
June	172.60	193.80	153.60	
July	171.90	179.00	150.10	
August	168.90	172.90	159.20	
September	171.60	177.80	160.30	
October	189.30	187.50	160.30	
November	200.10	189.10	161.80	
December	199.25	187.50	162.90	
Average <u>5/</u>	174.30	184.80	157.50	

1/ 60 percent protein, bagged, as quoted by brokers at New York City.

2/ Bulk.

3/ Nominal price as presented in the Oil, Paint, and Drug Reporter.

4/ Mainly meal at Gulf points.

5/ Average weighted by monthly production of menhaden meal.

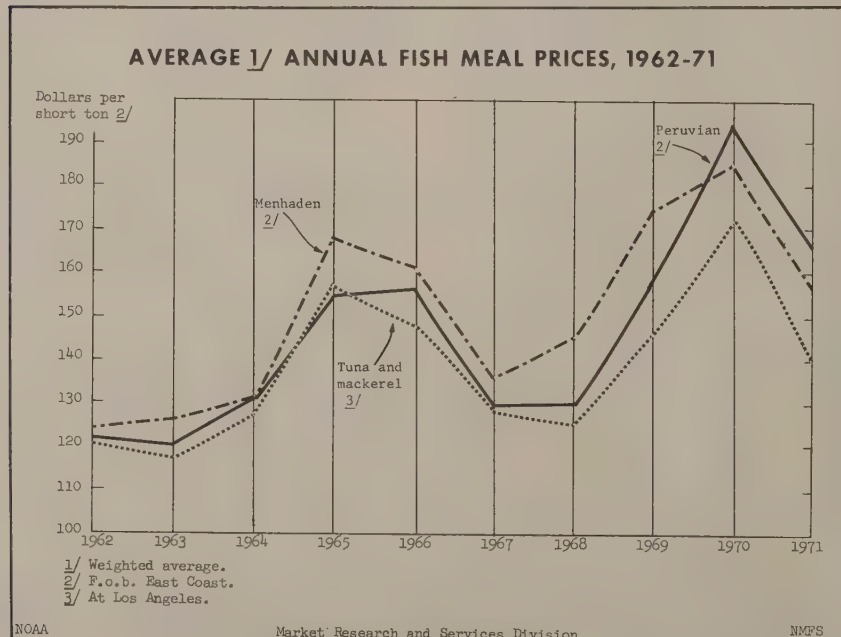


Figure 8

Table 16.--Average monthly price of tuna and mackerel meal 1/ at Los Angeles, 1969-72

Month	1969	1970	1971	1972	1972
	1/	2/	3/	4/	5/
	132.60	172.50	150.00	135.00	135.00
January	135.00	172.50	150.00	137.60	137.60
February	133.80	177.00	150.00	135.00	135.00
March	127.80	178.50	150.00	138.40	138.40
April	138.60	180.00	147.60		
May	145.80	180.00	144.00		
June	147.00	180.00	138.00		
July	147.00	168.00	135.00		
August	150.00	165.00	135.00		
September	168.00	162.00	135.00		
October	177.00	161.00	135.00		
November	172.20	159.00	127.50		
December					
Average 3/	146.15	170.15	140.80		

1/ 60 percent protein, bagged, as quoted by brokers at Los Angeles.

2/ Bulk.

3/ Average weighted by monthly production.

Table 17.--Average monthly price of Peruvian fish meal 1/ f.o.b. East Coast ports, 1969-72

Month	1969	1970	1971	1972	1972
	2/	3/	4/	5/	6/
	139.50	197.50	184.10	163.30	163.30
January	141.00	183.50	178.90	163.60	163.60
February	140.50	192.70	177.30	164.00	164.00
March	146.80	198.00	177.00	171.50	171.50
April	161.00	202.10	169.40		
May	168.00	195.80	156.80		
June	173.50	185.90	154.50		
July	172.10	179.10	160.10		
August	172.00	184.00	159.00		
September	193.40	189.80	157.80		
October	202.40	187.80	157.50		
November	204.00	186.40	158.40		
December					
Average 5/	157.10	194.70	166.10		

1/ 65 percent protein, f.o.b. East Coast ports. Bagged.

2/ January through March bagged, April bulk, May through July bulk and bagged, August through December bulk.

3/ Bulk.

4/ Average weighted by monthly imports of Peruvian fish meal.

equivalent, the 1971 average price was \$2.56 per unit of protein--compared with \$3.00 per unit of protein in 1970. The changes in the monthly average price of Peruvian fish meal were in line with the price changes of menhaden meal although the prices of Peruvian meal did not strengthen as readily in the fall as did prices of menhaden meal. The monthly price of Peruvian meal increased from \$154.50 per ton in July to \$158.40 per ton in December. Prices continued the increasing trend in 1972.

The average annual price of tuna, mackerel, and anchovy meal was \$140.80 per ton in 1971, as quoted by brokers in Los Angeles--down 17 percent from the 1970 average (table 16). The 1971 average price equals \$2.35 per unit of protein--compared to \$2.84 in 1970. The lower monthly prices for tuna, mackerel, and anchovy meal indicate that the demand for this meal has lagged in comparison to the demand for other fish meals.

OUTLOOK

Supply

Fish meal production in the United States in 1972 is expected to be close to last year's unusually high production of 282,500 tons. Production during the second quarter of 1972 is likely to be below last year's 98,700 tons because adverse weather in the Gulf of Mexico has hampered menhaden fishing.

The menhaden catch for the 1972 season is expected to be close to last year's catch, although it will include a larger proportion of small 1-year-old fish. The catch in the South Atlantic area is expected to be about the same as a year ago--with principal landings taking place in the Chesapeake Bay area. In the North Atlantic area, fishing effort

is expected to increase slightly; consequently the catch may be higher than a year before. In the Gulf area, fishing effort will probably be about 5 percent higher than in 1971 because of a larger fleet. If the weather is favorable, menhaden landings for the Gulf Coast area could approximate last year's record.

Tuna, mackerel, and anchovy meal production during the first quarter of this year was about 40 percent more than a year ago. Production is expected to continue relatively high.

Fish meal imports into the United States are mainly influenced by the market price of fish meal in comparison to the prices of other feed ingredients, which in turn is affected by the level of production and stocks as well as market conditions in the United States and in other countries that are major users of fish meal.

The present fish meal market is bullish, mainly because of sharply reduced Peruvian supplies and partly because of high prices of soybean meal. Assuming a 5-percent increase in broiler numbers and a fish meal-soybean meal price ratio of 1.9:1, we expect fish meal imports to be perhaps as high as 500,000 tons^{4/} in 1972 compared with last year's 283,200 tons. Second quarter imports are likely to be 100,000 to 150,000 tons.

^{4/} Estimated partially by the following regression equation:
 $y = 814.1 - 962.1x_1 + 0.523x_2$, where
 y =annual imports in thousand tons,
 x_1 =estimated average annual fish meal price-soybean meal price ratio,
 x_2 =estimated annual broiler placements in millions,
 $R^2 = .78$.

The condition of exceptionally large supplies of fish meal in the world appears to be changing. The Peruvian anchovy fishing season reopened on March 1, 1972, after being closed since mid-December. The monthly catch quota is 1.8 million metric tons, 600,000 tons more than the monthly quotas for the September-December period. The quota was reached in March. The catch in April was relatively poor, and the quota was not filled. The deterioration of catch is attributed to warm-water currents, which kept fish outside the reach of fishing boats.

Peruvian stocks of fish meal are also declining rapidly. According to the announcement of the Peruvian Fishery Minister, Peru sold about 1.8 million metric tons of fish meal between January 1 and April 7--presumably for shipments before the end of August. This amount represents nearly all of the expected production available from the catch of the second half of the season--if the quota is filled--plus January 1 stocks.

Demand

Broiler placements in the United States are currently running about 5 percent above last year's level. This development is expected to continue, and consequently the number of broilers placed on feed during the second quarter would be about 835 million. The ratio between the price of Peruvian fish meal and the price of soybean meal was about 1.9:1 during the third week of April--up from the March average of 1.67:1, mainly because of recent increase in fish meal prices. If the ratio continues at 1.9:1, we

estimate that about 230,000 ^{5/} tons of fish meal will be used in the United States during the second quarter of 1972--compared with 171,300 tons a year before.

Demand for fish meal is relatively high in comparison to supplies because of the shortage of soybean meal in the United States and elsewhere. Soybean meal prices increased sharply during the fall and winter of 1971. The current level of soybean meal prices appears, however, to have stabilized. The further development of fish meal prices is, therefore, mainly dependent on the Peruvian catch. If the ratio between the price of fish meal and the price of soybean meal should go beyond 1.9:1, the use of fish meal during the second quarter of this year would probably remain below the above estimate.

^{5/} Estimated partially through the following regression equation:
 $y = 48.36 - 56.78x_1 + 0.379x_2$, where
 y = 2d qtr. supplies in thousand tons,
 x_1 = estimated 2d qtr. fish meal price-soybean meal price ratio.
 x_2 = estimated 2d qtr. broiler placements in millions,
 $R^2 = .40$.

Table 18.--Total fish solubles available in the United States: production plus imports, by month, 1969-72

Month	1969	1970 ^{1/}	1971 ^{1/}	1972 ^{1/}
Thousand short tons				
January	0.6	1.3	1.0	2.5
February	1.4	2.1	1.2	2.1
March	1.6	2.5	1.5	2.4
April	5.0	3.5	4.4	
May	11.3	9.8	12.7	
June	12.6	15.7	22.6	
July	11.7	18.8	19.5	
August	10.5	14.0	19.2	
September	12.8	11.3	11.4	
October	6.5	9.8	8.0	
November	4.0	4.0	6.5	
December	3.9	2.9	1.4	
Total ^{2/}	81.9	95.4	110.5	

^{1/} Preliminary.

^{2/} Figures may not add to total because of rounding and revised total.

Table 19.--Average monthly price of menhaden solubles ^{1/} f.o.b. East Coast plants, 1969-72

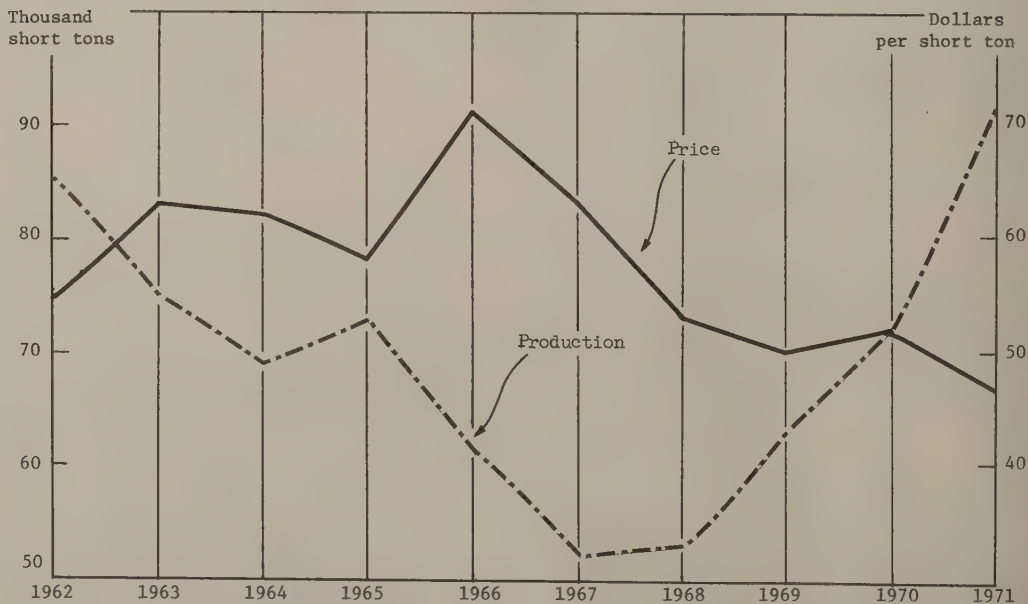
Month	1969	1970	1971	1972
Dollars per short ton				
January	51.25	51.25	51.25	40.40
February	51.25	50.90	51.25	38.05
March	49.40	51.75	51.25	35.90
April	47.75	52.80	50.60	35.90
May	47.50	2/54.70	48.90	
June	49.75	2/54.30	49.00	
July	51.25	51.90	48.10	
August	49.40	50.45	47.15	
September	48.75	48.70	45.05	
October	50.60	50.60	43.10	
November	51.25	50.65	42.70	
December	52.50	49.70	42.50	
Average ^{3/}	49.60	51.90	46.80	

^{1/} In tank cars; prices quoted by brokers at New York City.

^{2/} F.o.b. Gulf Coast plants only.

^{3/} Weighted average.

U.S. PRODUCTION AND AVERAGE ANNUAL PRICE ^{1/} OF MENHADEN SOLUBLES, 1962-71



^{1/} Weighted average price, f.o.b. East Coast plants, based on quotes at New York City.

FISH SOLUBLES

REVIEW

Supply

Supplies Up 16 Percent

The total amount of fish solubles available in the United States in 1971 was 110,460 tons--up about 16 percent from 1970 and nearly one-third higher than the 1966-70 average (table 18).

Production Highest Since 1962

About 110,400 tons of fish solubles were produced in the United States in 1971--compared to 95,100 tons in 1970. Because of lower prices, the value of production (\$5 million) was about the same as a year before. About 83 percent or 91,200 tons of fish solubles were made from menhaden. U.S. production of fish solubles was highest since 1962 mainly because of high production of menhaden solubles (fig. 9).

Demand

Prices Lowest in 10 Years

The annual average price of menhaden solubles, as quoted by brokers in New York City, was \$46.80 per ton in 1971--compared to \$51.90 in 1970 (table 19). Prices were

lowest since 1961, reflecting an increase in supplies. Demand for solubles is relatively inelastic in the short run (price levels have little influence on quantities used) because buyers are reluctant to invest in special equipment for handling solubles. Consequently, an increase in supplies can tend to drive prices down sharply. Although prices of menhaden solubles declined steadily since the first quarter of 1971, the difference between the prices of menhaden meal and menhaden solubles was less favorable for use of solubles during April-December than during January-March 1971. Similarly, meal-solubles price margins were less attractive to the use of solubles in 1971 than the year before.

OUTLOOK

Prices of menhaden solubles continued to decline during the first quarter of 1972. The March average price was \$35.90 per ton--lowest since December 1960. In addition to the low price, the margin between the price of menhaden meal and the price of menhaden solubles is once again favorable for the use of menhaden solubles. If the attractive price level and price margin continues, it may prompt feed formulators to include more solubles in their rations. On the other hand, the high meal-solubles price margins may stimulate producers to return more solubles to the presscake or scrap and sell them in the form of full meal.

FISH OIL

REVIEW

Supply

Production Up 28 Percent

The domestic industry produced 261.9 million pounds of fish oil in 1971 (excluding whale oil)--28 percent more than in 1970 and 58 percent more than the 1966-70 average (tables 20 and 21).

Table 20.--U.S. production of fish oil ^{1/}, by month, 1969-72

Month	1969	1970 ^{2/}	1971 ^{2/}	1972 ^{2/}
Million pounds				
January	0.6	0.6	1.4	1.4
February	.6	.6	0.5	0.9
March	.6	.6	.5	.7
April	5.9	3.2	9.5	.
May	20.6	21.7	27.3	
June	27.7	39.8	54.3	
July	29.8	40.8	54.9	
August	26.6	41.1	58.0	
September	28.7	27.4	30.4	
October	13.6	19.3	16.8	
November	8.4	7.2	6.0	
December	5.0	3.0	1.6	
Total ^{3/}	168.0	205.4	261.9	

1/ Excludes small amount of whale oil.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

About 92 percent of the total production was menhaden oil--a slightly higher percentage than a year before (table 21). About four-fifths of the menhaden oil was produced in the Gulf Coast area.

The average oil yield of menhaden in 1971 was about 11 percent of the landed weight--compared to about 10 percent a year before. The increase in the average oil yield was attributed to larger size fish in the Atlantic area. The

oil yield of Atlantic menhaden was exceptionally low in 1970.

Anchovies, herring, tuna, and mackerel accounted for about 5 percent of the fish oil production in 1971 compared to about 7 percent in 1970. Production of tuna and mackerel oil in 1971 was 40 percent higher than a year before while production of anchovy oil was only little more than half of the production of 1970.

The value of fish oil production was \$20.7 million in 1971--compared with \$18.1 million a year ago. Menhaden oil alone accounted for \$19.3 million (table 21).

Demand

Industrial Use Down

In 1971, the use of fish oils in the United States continued the declining trend which began in 1961 because of the increased use of lower priced substitutes. About 26.5 million pounds were used in 1971 for industrial purposes, mainly protective coatings,--compared with 31.4 million pounds in 1970 and 34.1 million pounds in 1969 (table 22).

Table 22.--Industrial use of fish oil in the United States, by month, 1969-72 ^{1/}

Month	1969	1970	1971	1972 ^{2/}
Million pounds				
January	1.8	3.1	2.2	2.2
February	3.1	2.9	2.1	2.1
March	3.1	2.4	2.0	
April	3.2	2.8	2.0	
May	1.9	3.2	1.9	
June	3.9	3.2	2.8	
July	2.2	2.7	2.7	
August	2.5	2.0	1.7	
September	3.3	2.8	3.0	
October	3.0	2.4	1.4	
November	3.3	1.9	1.9	
December	2.8	2.0	2.9	
Total ^{3/}	34.1	31.4	26.5	

1/ Includes marine mammal oil other than sperm oil and some hydrogenated fats (vegetable and animal) and other fats and oils in process.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

Table 21.--Quantity and value of U.S. fish oil 1/ production by raw material source, source, 1966-70 average, 1970, and 1971

Source	Quantity			Percent of total U.S. production		
	1966-70 average	1970 2/ :	1971 2/ :	1966-70 average	1970 :	1971 :
	<u>Million pounds</u>			<u>Percent</u>		
Menhaden	146.6	186.3	242.1	88.6	90.9	92.3
Anchovy	2.7	6.2	3.2	1.6	3.0	1.2
Herring	6.4	5.4	5.9	3.9	2.6	2.3
Tuna, mackerel	4.3	3.5	4.9	2.6	1.7	1.9
Unclassified	5.4	4.0	5.9	3.3	1.8	2.3
Total 3/	165.5	205.4	261.9	100.0	100.0	100.0
Source	Value			Percent of total value		
	1966-70 average	1970 2/ :	1971 2/ :	1966-70 average	1970 :	1971 :
	<u>Million dollars</u>			<u>Percent</u>		
Menhaden	9.4	16.8	19.3	87.8	92.8	93.1
Anchovy	0.2	0.4	0.2	1.9	2.2	0.8
Herring	.4	.3	.5	3.7	1.7	2.4
Tuna, mackerel	.2	.2	.3	1.9	1.1	1.2
Unclassified	.5	.4	.5	4.7	2.2	2.4
Total 3/	10.7	18.1	20.7	100.0	100.0	100.0

1/ Excluding whale oil.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

Exports Highest Since 1963

The United States exported 229.9 million pounds of fish oil in 1971--45 percent more than in 1970 and twice as much as the 1966-70 average annual exports (table 23). Nearly all of the U.S. fish oil exports in 1971 was menhaden oil.

Table 23.--U.S. exports of fish oil 1/ by month, 1969-72

Month	1969	1970	1971 <u>2/</u>	1972 <u>2/</u>
----- Million pounds -----				
January	4.0	11.1	32.2	3/
February	8.9	0.4	4.9	10.3
March	19.8	13.9	0.3	0.7
April	21.1	4.3	6.1	
May	8.8	4.4	4.6	
June	15.5	2.4	10.9	
July	19.3	30.3	34.7	
August	24.7	31.1	43.1	
September	7.9	37.8	43.7	
October	5.7	.2	4.4	
November	33.3	17.9	21.6	
December	27.0	4.9	23.4	
Total <u>4/</u>	196.1	158.8	229.9	

1/ Excluding whale oil.

2/ Preliminary.

3/ Less than 50,000 pounds.

4/ Figures may not add to total because of rounding.

About 124.9 million pounds of the United States fish oil exports went to the Netherlands in 1971--compared with 57.5 million pounds in 1970. The exports to the Netherlands accounted for 54 percent of the total United States exports of fish oil in 1971.

Sweden was the second largest market for United States fish oil in 1971. Nearly 40 million pounds went to Sweden in 1971--more than twice the amount shipped to that country a year before.

The United Kingdom received 28.2 million pounds of fish oil from the United States and West Germany 25 million pounds. United States exports of fish oil to West Germany in 1971 were nearly twice the exports of 1970.

The main reasons for increased exports of U.S. fish oil were (1) the relatively high production of fish oil in the United States, (2) somewhat lower prices, and (3) increased consumption of margarine and shortening in Europe.

Prices

Prices 1.4 Cents Below 1970 Record

The average annual price of menhaden oil, as quoted by brokers at New York City, was 8.75 cents per pound in 1971--compared to the record high 1970 average of 10.15 cents per pound (table 25). The

Table 25.--Average monthly price of menhaden oil 1/ f.o.b. East Coast plants, 1969-72

Month	1969	1970	1971	1972
----- Cents per pound -----				
January	4.70	8.75	10.40	7.35
February	5.00	2/9.25	10.30	6.85
March	5.20	2/8.90	10.20	6.50
April	5.30	3/9.70	9.65	6.40
May	5.25	3/10.30	8.95	
June	5.20	10.30	8.05	
July	5.25	10.40	8.60	
August	5.65	10.20	9.25	
September	6.10	9.70	9.15	
October	6.75	9.75	8.85	
November	8.20	10.10	8.90	
December	8.50	10.60	8.50	
Average <u>4/</u>	5.75	10.15	8.75	

1/ Crude oil in tank cars; prices quoted by brokers at New York City.

2/ Asking price.

3/ F.o.b. Gulf Coast plants.

4/ Weighted average.

decreased prices of menhaden oil from January to June reflected the decline in the world usage of fish oil associated with noncompetitively high prices of Peruvian fish oil. Menhaden oil prices strengthened during the late summer and early fall but weakened again at the end of the year, thus reflecting anticipated changes in the supplies of food oils and fats in the world market.

Table 24.--U.S. exports of fish oil 1/ by country of destination, 1966-70 average, 1970, and 1971

Country	1966-70 average	1970	1971 2/	Percent of total U.S. exports		
				1966-70 average	1970	1971
		Million pounds			Percent	
Canada	1.2	1.4	1.0	1.0	0.9	0.4
Netherlands	49.7	57.5	124.9	43.3	36.2	54.2
Norway	9.5	36.0	-	8.3	22.7	-
Sweden	18.3	17.0	39.7	15.9	10.7	17.3
United Kingdom	12.5	24.6	28.2	10.9	15.5	12.3
West Germany	12.4	13.2	25.0	10.8	8.3	10.9
Other	11.2	9.1	11.2	9.8	5.7	4.9
Total 3/	114.8	158.8	229.9	100.0	100.0	100.0

1/ Excluding whale oil.

2/ Preliminary.

3/ Figures may not add to total because of rounding.

Menhaden oil prices dropped further during the first 4 months of 1972. The April average was 6.4 cents per pound--down 2 cents from the December average. This decline was in line with the reduced prices of Peruvian fish oil and reflects the increased supplies of fish oil and competing oils in the world markets.

Table 26.--Average monthly price of tuna and mackerel oil 1/ at Los Angeles, 1969-72

Month	1969	1970	1971	1972
Cents per pound				
January	3.25	3.25	6.00	5.25
February	3.10	3.50	6.00	5.25
March	3.00	3.65	6.00	5.25
April	3.00	4.10	6.00	5.25
May	3.00	4.70	5.90	
June	3.00	4.75	5.50	
July	3.00	4.75	6.00	
August	3.10	4.95	5.25	
September	3.25	5.25	5.25	
October	3.25	5.25	5.25	
November	3.00	5.50	5.25	
December	3.00	6.00	5.25	
Average 2/	3.10	4.95	5.55	

1/ Crude oil, f.o.b. plant; prices quoted by brokers at Los Angeles..

2/ Weighted average.

OUTLOOK

Supply

Although the menhaden catch is expected to be relatively high during the 1972 season, fish oil production is likely to be slightly less than a year ago. According to NMFS biologists, 1-year-old fish in the Gulf and Middle Atlantic areas will provide a higher percentage of landings than a year ago and older year classes will be less prevalent. Consequently, the oil yield will be lower than last year. This decline is expected to offset the increased fishing effort and higher oil yield of the 3- to 5-year-old fish in the North Atlantic area.

Fish oil production during the second quarter of 1972 will likely be somewhat below last year's 91.1 million pounds, which was exceptionally high. The most recent 5-year average was about 50 million pounds.

Demand

During the first quarter of 1972, the ratios of the prices of fish oil to the prices of soybean oil, linseed oil, and tung oil were lower than a year ago. If these price ratios continue, we expect the domestic use of fish oil to be about 9 million pounds during the second quarter of this year--compared to 6.7 million pounds a year ago. The annual use would probably be about 10 million pounds more than a year ago when 26.5 million pounds were used.

U.S. fish oil exports are influenced by the availability of fish oil in other countries and by the changes in the world supply and demand situation for competing oils. Despite price increases of Peruvian semirefined fish oil in Europe and the recent improvement of the prices of menhaden oil in the United States, the market appears bearish in the long run. The main reasons for this are (1) increased world supplies of fish oil partially due to high stocks and exceptionally high fish oil yield in Peru, and (2) increased competition from palm oil and lauric oils in Europe.

The recent bullish factors in fish oil markets were probably in response to increased prices of soybean oil in the United States. This in turn was based on a current shortage of soybeans and an estimated low soybean acreage in the United States for the current season.

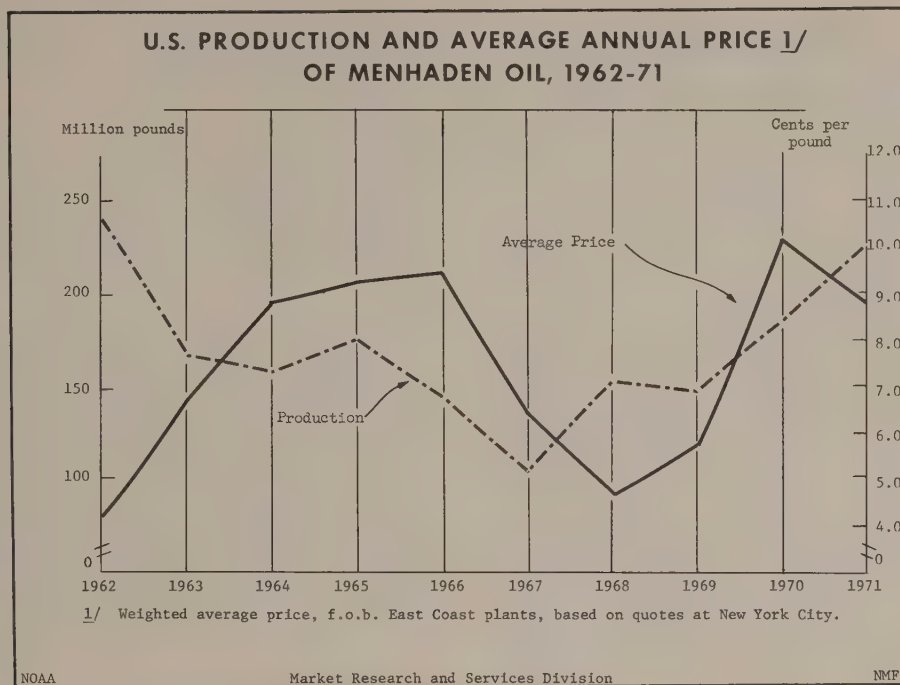


Figure 10

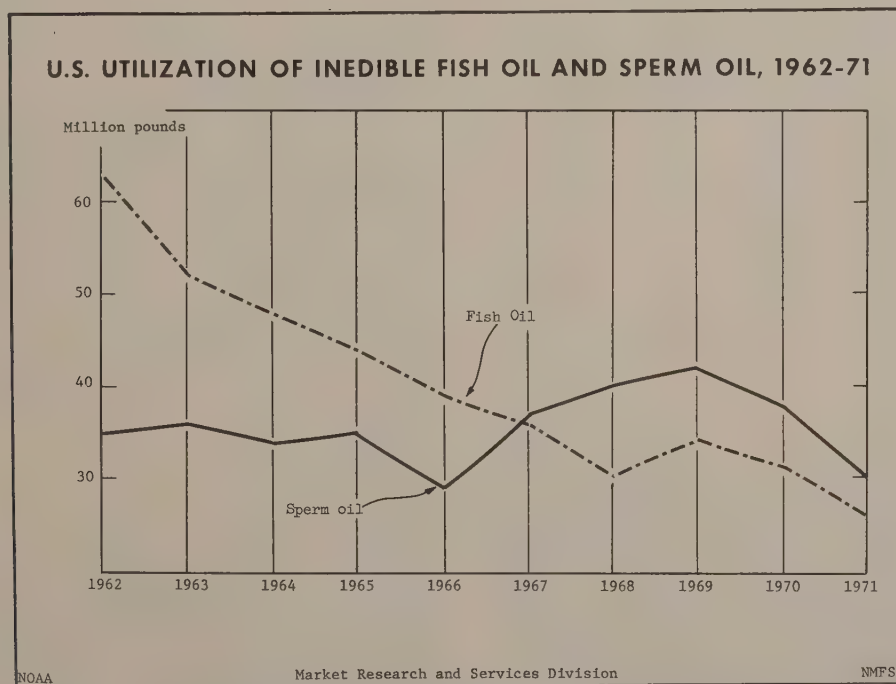


Figure 11

WHALE OIL

REVIEW AND OUTLOOK

Supply

Production Ended 6/

The United States Government has terminated licensing of commercial hunting of those whales listed as endangered species. Since December 1971, U.S. commercial whaling for these species has been prohibited. Whale oil production in 1971 declined considerably compared with the previous year, and only 418,000 pounds valued at \$40,000, were produced (table 27). About 344,000 pounds of this production was sperm oil.

Table 27.--Whale and sperm oil production, imports, exports, and domestic use in the United States, 1960-71

Year	Production	Imports	Exports	Domestic use 1/
----- Million pounds -----				
1960	3.3	37.5	1.4	46.9
1961	3.5	60.5	1.2	46.6
1962	2.6	69.2	2.7	35.2
1963	2.1	67.3	5.6	36.1
1964	3.2	58.9	5.6	33.6
1965	2.7	77.2	5.9	34.8
1966	1.4	58.2	4.4	29.0
1967	2.5	51.4	1.8	37.2
1968	2.4	57.5	4.1	39.9
1969	1.7	46.0	3.3	41.6
1970	0.7	55.6	5.1	38.2
1971 2/	.4	45.6	6.1	30.4

1/ Sperm oil only.

2/ Preliminary.

Imports Down

The United States imported 45.6 million pounds of whale oil in 1971--down 10 million pounds from the year before. The Netherlands was the major source of supplies and

6/ Because of these developments this issue is likely to be the last to review the whale oil markets.

provided nearly 22 million pounds or about 48 percent of the total United States imports (table 28). Japan, which traditionally had been the major source for United States imports, shipped about 13.5 million pounds to the United States in 1971--41 percent less than a year before. Whale oil imports from Peru also were down.

Whale oil imports also are terminated by the U.S. Government. Commercial permits were granted only for contracts made prior to December 2, 1970. Whale oil was to be imported within 1 year of that date, but, mainly because of dock strikes, the permits were extended to allow the rest of the contracted whale oil to be imported during the early part of 1972.

Demand

Domestic Use Down

The United States used about 30.4 million pounds of whale oil in 1971--nearly 8 million pounds less than in 1970. Oil from sperm whales is used in a wide variety of specialty products. For some of these products there are no known adequate substitutes. Thus synthetic replacements will have to be developed for various individual uses.

Exports Up

The United States exported 6.1 million pounds of whale oil in 1971--1 million pounds more than in 1970. About 36 percent of the exports of whale oil went to Japan, 31 percent to Canada, 28 percent to the United Kingdom, and the rest, in small quantities, to several other countries.

Table 28.--U.S. imports of whale oil by country of origin, 1966-70 average, 1970, and 1971

Country	1966-70 average	1970	1971 1/	Percent of total U.S. imports	
				1966-70 average	1970
					Percent
		Million pounds			
Japan	21.8	22.8	13.5	40.5	41.0
Netherlands	5.9	5.5	21.6	11.0	9.9
Peru	9.5	14.4	3.2	17.7	25.9
Other	16.6	12.9	7.2	30.8	23.2
Total 2/	53.8	55.6	45.6	100.0	100.0

1/ Preliminary.

2/ Figures may not add to total because of rounding.

Table 29.--U.S. whale catch, 1971

Month	Fin	Sei	Sperm	Total
			Number	
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	-	3	3
May	-	-	5	5
June	2	1	-	3
July	1	1	7	9
August	-	-	9	9
September	1	-	18	19
October	-	-	3	3
November	-	-	2	2
December	-	-	-	-
Total, 1971	4	2	47	53
Total, 1970	5	4	1/64	73

1/ The taking of 30 sperm whales was authorized by special scientific permit No.-1970-1.

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